

APR '16
ISSUE

PARTICLE POST

COLLIDER-ACCELERATOR DEPARTMENT

Contact: [A. Lamberti](#)

A WORD FROM
THE:

PREVIOUS ISSUES

March 2016

Administration

{[HOME PAGE](#)}

BNL WEBSITE | [C-AD WEBSITE](#) | [ES&F WEBSITE](#) | [BERA](#) | [BNL CLASSIFIED ADS](#) | [INSIDE](#)

Accelerator Div.

Quote of the Month: "Science is the acceptance of what works and the rejection of what does not. That needs more courage than we might think." - Jacob Bronowski

ES&F Div.

Acc. R&D Div.

Operations

▶ Arrivals/Departures

 Safety Stats



NOTE FROM OUR CHAIR: Thomas Roser

The repair work of the quench protection diode of one dipole of the blue RHIC ring was completed in just 19 days. This included warm-up of the sectors 10 and 11, cutting through the cryostat, heat shields, and magnet end volume, replacing the diode and perform electrical tests, weld everything back together and pressure test, and cool back down to liquid helium temperature. This was an extraordinary, around the clock effort by many people from C-AD, SMD, F&O, and RCD coordinated by Gary McIntyre. All the work was carefully planned and executed highly professionally and safely. Thank you all!

RHIC came quickly back with the same record breaking performance as before the diode failure. Due to the power saved during the repair time and the low electrical pulse rates this year it is likely that the run can be extended to the end of June to make up for the interruption of the run.

The Ultrafast Electron Diffraction (UED) facility on the floor in 912 is nearing completion. This will be the first element of the ATF II upgrade to be completed. The facility will be used for first experiments during this year.

[VIEW UPCOMING CONFERENCE PROJECTIONS](#)

PROJECTIONS DUE ASAP

DID YOU KNOW??

Check out who received an employee Service Award this year! Collider-Accelerator Dept. employees who received a [Service Award](#).

Check out who received an employee [Spotlight Award](#) this year!

Efforts are underway at C-AD to boost production of radioisotopes for diagnostic and therapeutic purposes by upgrading

EVENTS/SEMINARS

April 20 - (Berkner Hall Auditorium | 4p)
Brookhaven Lecture: "What Will Earth Be Like in 50 Years?"

April 26 - (Bldg. 815E, Conference Room | 11a)
Environmental & Climate Sciences Department Seminar "Orographic Convection and Precipitation in the Tropics: Wind Speed Control and Aerosol

BNL's isotope production and research facility to increase the yield of key medical isotopes.



In the Brookhaven Linac Isotope Producer (BLIP) control room, (clockwise from back) Leonard Mausner, Deepak Raparia, and Robert Michnoff, who worked on upgrade efforts, and Jason Nalepa, a BLIP operator, inspect recent changes to the raster beam profile.

Read more about the efforts of C-AD in producing radioisotopes for diagnostics and therapeutics [here](#).

Interactions''

**April 27 - (Berkner Hall Auditorium| 12p)
BSA Recital - Stony Brook Opera to
Perform La Boheme**

**April 27 - (Bldg. 935, Science Learning
Center | 4p) Office of Educational
Programs Event "Science Through
Reading"**

**April 28 - (Bldg. 744, Conference Room
156 | 9:30a) Take your Daughters and
Sons to Work Day at BNL**

**May 5-6 - (Berkner Hall | 11a - 2p)
Mother's Day Plant Sale**

**May 5 - (Berkner Hall, Rm. B | 12p)
Foundation for Personal Financial
Education "Passport to Retirement"**

**May 10 - (Berkner Hall, Rm. B| 11a) APS
and Assoc. of Students and Postdocs -
ASAP present "ART"**

IN OTHER NEWS...

*New Graphene-Glass Combo Powers
"Spontaneous" Solar Cell*
Brookhaven Does (Graphene) Windows.
Apparently the Brookhaven solution to the
graphene problem has been staring
everybody in the face, ever since graphene
was first discovered in 2004: ordinary glass
window. [Read more.](#)

*Research Teams Use DNA to Make 3-D
Nanoparticle Structures with High
Precision*
DNA strands anchored to the surface of
nanoparticles allow researchers to assemble
the particles into three-dimensional
crystalline lattices. Such control allows
researchers to make new materials with
desirable properties. [Read more.](#)

*Farmingdale takes first in BNL High School
Science Bowl*
Farmingdale High School students have one
contest down to a science. [Read more.](#)



The pinwheel galaxy, M101, captured by Steve Bellavia.

New cathode material stops batteries turning crusty with age

Scientists at three US Department of Energy (DOE) national laboratories have discovered how to keep a promising new type of lithium ion battery cathode from developing a crusty coating that degrades its performance. [Read more.](#)

RHIC Particle Smashups Find that Shape Matters

Scientists colliding football and sphere-shaped ions discover evidence supporting a paradigm shift in the birth of the quark-gluon plasma. [Read more.](#)

Two American Physics Labs Are Vying for a Billion Dollar Particle Accelerator

Two labs are vying for government funding to host a billion-dollar atom smasher, and the battle is getting political. [Read more.](#)

Neutrinos Change Their Flavor and Snag Another Nobel Prize

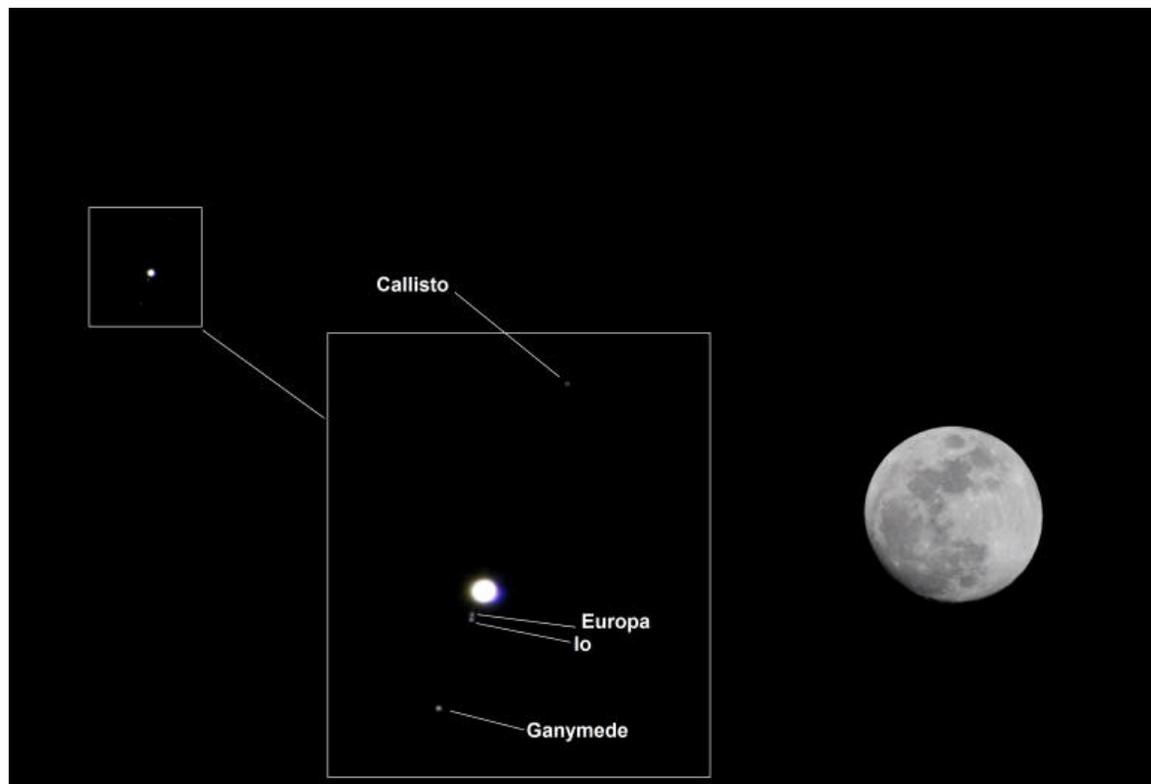
Early this morning the world learned that the 2015 Nobel Prize in Physics has been awarded to Takaaki Kajita and Arthur B. McDonald for discovering that neutrinos can change from one type to another. [Read more.](#)

World's largest atom smashers create world's smallest droplets

How long can a droplet shrink and remain a liquid? [Read more.](#)

'Inflatable Dark Matter' Could Explain Why We See Less Than Many Theories Predict

Many wonderful theories that explain the evolution of the universe fail because they predict more dark matter than is actually out



The moon in close proximity to Jupiter and its four moons, Callisto, Europa, Io and Ganymede.

there. Now a new paper proposes one event in the early universe that would reduce the amount of dark matter in all the theories. [Read more.](#)

Ion collider produces droplets of primordial goo

The Relativistic Heavy Ion Collider just spit out tiny droplets of a liquid researchers say resembles the seeds of the cosmos, primordial goo created by the Big Bang, which existed on briefly before cooling the matter that helped birth stars, galaxies and planets. [Read more.](#)

Brookhaven National Laboratory projects are up for awards

Four projects developed at BNL have been nominated as finalists for awards to be presented this year by a national magazine. [Read more.](#)

Scientists Create Primordial 'Perfect Liquid' in Lab

The BNL's Relativistic Heavy Ion Collider smashed together large nuclei at nearly the speed of light to recreate the fundamental particles in the primordial soup present during the earliest days of the universe. [Read more.](#)

World's most powerful digital camera being built by US Department of Energy
The US Department of Energy is building a digital camera that puts your camera to shame. [Read more.](#)

WHAT'S GOING ON IN OUR NEIGHBORHOOD?

Interested in Cycling?

<http://www.bicyclelongisland.org/majoride.htm>
<http://www.cyclotour.com/events.htm>

Interested in Running or Walking?

Brooklyn Bridge Running Tour - Apr. 23
Jigsaw 4 Mile Run - Apr. 24 in East Islip
1st Annual East Moriches PTO 5K Run - May 7
22nd Annual Families Walk & Run for Hope - May 7 at Mather Hospital in Port Jeff

...Check out the [LI Running Calendar](#) for more!

For the Kids:

Long Island's Got Talent 2016! - The Ward Melville Heritage Organization's Youth Corps is proud to once again present its annual music showcase at a special performance on Friday, April 8th.

Stony Brook Events:

The Mickey Rooney Story (Musical Theater Tribute Performances) - May 4 - Jun 12 at The Educational and Cultural Center in Stony Brook Village

Port Jefferson Events:

Eighth Annual Antiques and Garden Weekend - Apr. 23 -24 in PJ Village Center
"Speed Sisters", PJ Documentary Series - Apr 25 at Theater Three, PJ Arts Council
Farmer's Market - May 1 (10a - 2p) in PJ Village, every Sunday

DAY AT THE VINEYARDS...

Duckwalk North - SOUTHOLD - Music on Saturdays (4-6pm)

Castello di Borghese Vineyard & Winery - CUTCHOGUE - Vineyard Tours & Wine Tastings Every Thursday & Sunday at 1pm & FREE Jazz Every Saturday (2-4p) with Marguerite Volonts

Jamesport Vineyards - JAMESPORT -Live Music from 1-4pm every Fri, Sat & Sun

Martha Clara Vineyards - RIVERHEAD - Live Music every weekend

Palmer Vineyards - RIVERHEAD - Live Music every Sat (12-4).

Pindar Vineyards - PECONIC - Live Music Every Saturday (1-5pm)

Baiting Hollow Farm Vineyard - BAITING HOLLOW - Music every Sat & Sun from (2-6)

Paumanok Vineyards - RIVERHEAD - Fresh, Local Oysters (2-5pm) every Sat & Sun starting Memorial Day through September

Check out Erik Forsyth's Travels:



[HTTP://WWW.YACHTFIONA.COM](http://www.yachtfiona.com)

APR '16
ISSUE

PARTICLE POST

COLLIDER-ACCELERATOR DEPARTMENT

Contact: [A. Lamberti](#)

A WORD FROM
THE:

PREVIOUS ISSUES

August 2015

[Administration](#)

[{HOME PAGE}](#)

[BNL WEBSITE](#) | [C-AD WEBSITE](#) | [ES&F WEBSITE](#) | [BERA](#) | [BNL CLASSIFIED ADS](#) | [INSIDE](#)

[Accelerator Div.](#)

Quote of the Month: "Science is the acceptance of what works and the rejection of what does not. That needs more courage than we might think." - Jacob Bronowski

[ES&F Div.](#)

[Acc. R&D Div.](#)

NOTE FROM OUR ADMINISTRATION: Sue Pankowski

[Operations](#)

[▶ Arrivals/Departures](#)

[Safety Stats](#)



While the month of March started out like a typical month of operations, things changed quickly when an emergency repair was required for RHIC. From a fiscal standpoint, we recognized some extraordinary expenses in order to quickly complete the repair, with increased labor costs, including central shops labor, as well as costs for material and replacement components. These additional costs come out of the same operating budget that funds our day to day operations - there is no special contingency fund available for emergency repairs. So as we tally up the expenses related to the dipole repair, we will further refine the spending projections for the second half of the year and look for areas where we may be able to minimize costs in order to keep the budget in balance.

Every one of us here in C-AD can help. In one way or another, all of us are responsible for financial oversight, whether it's questioning that a purchase is absolutely essential, verifying that a project number being charged is appropriate, or reviewing monthly credit card statement or labor reports for accuracy. Last month an alert group leader noticed something unusual on a stores withdrawal report, and raised a question about two charges valued at close to \$50,000. Upon investigation it was determined that the two charges related to transactions that occurred in 2008 and 2010! The charges were subsequently reversed, thus saving valuable funding.

Each month end, a number of reports are available on our website covering such items as labor charges, credit card purchases, stores withdrawals, and F&O charges from Maximo. We encourage you to take responsibility for the financial activity generated within your area, and review these month end reports regularly. Questions or anomalies should be addressed to the system owner. Please see me or any member of the C-AD Business Operations Group if you need any assistance. Your attention to detail can help us save money.

APR '16
ISSUE

PARTICLE POST

COLLIDER-ACCELERATOR DEPARTMENT

Contact: [A. Lamberti](#)

A WORD FROM
THE:

PREVIOUS ISSUES

August 2015

[Administration](#)

[{HOME PAGE}](#)

[BNL WEBSITE](#) | [C-AD WEBSITE](#) | [ES&F WEBSITE](#) | [BERA](#) | [BNL CLASSIFIED ADS](#) | [INSIDE](#)

[Accelerator Div.](#)

Quote of the Month: "Science is the acceptance of what works and the rejection of what does not. That needs more courage than we might think." - Jacob Bronowski

[ES&F Div.](#)

[Acc. R&D Div.](#)

NOTE FROM OUR ACCELERATOR DIVISION: Wolfram Fischer

[Operations](#)



The RHIC Run-16, coordinated this year by Xiaofeng Gu, had an unusual event on 19 March 2016 when a quench protection diode for arc dipole bo10-d19 shorted. For the repair a section of the Blue ring had to be warmed up, the cryostat opened, the diode replaced, the cryostat closed again, and the Blue ring cooled down again. The first physics store after the repair began on 6 April 2016.

There were many from the Collider-Mechanical Group, Radiological Control Division, Collider Electrical Power Supply Group, Vacuum Group, Cryogenic Group, Operations Group, Superconducting Magnet Division and BNL Central Shops that made extraordinary contribution to the repair.

A special thanks to Gary McIntyre, Scott Seberg, Richard Anderson, Harold Dorr, Rob Karl, and Mark Lavery who planned and executed the tunnel work together with the BNL welders and outstanding support from Paul Berg and his team; and Don Bruno, George Ganetis (NSLS-II), Gregg Heppner, Theo Samms, Don Gosline, Joe Drozd, Ken Hartmann, John Adessi, Femi Bamgbose, Erik Rydout, Chaofeng Mi and others who diagnosed the problem beginning on 19 March 2016, and did the final electrical test over the last weekend.

[▶ Arrivals/Departures](#)

 [Safety Stats](#)

APR '16
ISSUE

PARTICLE POST

COLLIDER-ACCELERATOR DEPARTMENT

Contact: [A. Lamberti](#)

A WORD FROM
THE:

PREVIOUS ISSUES

August 2015

Administration

[{HOME PAGE}](#)

[BNL WEBSITE](#) | [C-AD WEBSITE](#) | [ES&F WEBSITE](#) | [BERA](#) | [BNL CLASSIFIED ADS](#) | [INSIDE](#)

Accelerator Div.

Quote of the Month: "Science is the acceptance of what works and the rejection of what does not. That needs more courage than we might think." - Jacob Bronowski

ES&F Div.

Acc. R&D Div.

Operations

NOTE FROM OUR EXPERIMENTAL SUPPORT & FACILITIES DIVISION: Bill Christie

▶ Arrivals/Departures

 Safety Stats



In last month's article I'd indicated that the current RHIC running of top Energy Gold on Gold (AuAu) collisions was proceeding well, and that discussions were planned for March 22nd to discuss whether we'd end the AuAu running after 10 weeks on April 18th, or modify this plan. On the morning of March 17th RHIC suffered the diode failure in one of the Blue ring magnets, and plans for the rest of the run were put on hold until we got back to a running state.

Due to the tremendous and successful efforts of a number of groups and people inside and outside of C-AD the entire interruption to beam operations for RHIC was kept down to just 19.5 days that the physics program was offline, and hence the plan for the rest of the run was the topic for this meeting. What came out of the meeting was a decision that the current AuAu running will be extended to make up for the 19.5 days the program was offline. This pushes the earliest change over date from AuAu to dAu running until the vicinity of May 7th.

There was also a discussion of whether the length of the current RHIC run, which was scheduled to cease beam operation on June 3rd, with the Cryo warm up complete by June 7th, could be extended further into June. Due to the reduced power cost for the period when RHIC was offline, and the low cost of power through the month of February, it was determined that the run could be extended by at least two weeks. Once the March power cost is known (usually about mid-month the following month) a final determination/decision will be made whether the run can be extended by three weeks.

The experiments were asked to provide answers to specific questions to the Directorate ALD (Berndt Mueller), for further discussions on exactly how the remaining run time between May 7th and the end of the run will be allocated.

For a heads up as far as planning goes, with a two week extension the beam operations would cease on Friday, June 17th, with the Cryo warm up complete by June 21st. If the three week extension occurs, beam operations would cease on June 24th, with the Cryo warm up complete by June 28th. At this point, the expectation is that we'll have the final plan for the use of the beams, and the length of the run, after the RHIC Coordination meeting on April 26th.

APR '16
ISSUE

PARTICLE POST

COLLIDER-ACCELERATOR DEPARTMENT

Contact: [A. Lamberti](#)

A WORD FROM
THE:

PREVIOUS ISSUES

August 2015

Administration

{ [HOME PAGE](#) }

[BNL WEBSITE](#) | [C-AD WEBSITE](#) | [ES&F WEBSITE](#) | [BERA](#) | [BNL CLASSIFIED ADS](#) | [INSIDE](#)

Accelerator Div.

Quote of the Month: "Science is the acceptance of what works and the rejection of what does not. That needs more courage than we might think." - Jacob Bronowski

ES&F Div.

Acc. R&D Div.

Link to: [ATE Newsletter](#)

Operations

NOTE FROM ACCELERATOR R&D DIVISION: Ilan Ben-Zvi

▶ Arrivals/Departures

No comment at the time of this publication.

 Safety Stats



APR '16
ISSUE

PARTICLE POST

COLLIDER-ACCELERATOR DEPARTMENT

Contact: [A. Lamberti](#)

A WORD FROM
THE:

PREVIOUS ISSUES

August 2015

Administration

{ [HOME PAGE](#) }

BNL WEBSITE | [C-AD WEBSITE](#) | [ES&F WEBSITE](#) | [BERA](#) | [BNL CLASSIFIED ADS](#) | [INSIDE](#)

Accelerator Div.

Quote of the Month: "Science is the acceptance of what works and the rejection of what does not. That needs more courage than we might think." - Jacob Bronowski

ES&F Div.

Acc. R&D Div.

Operations

NOTE FROM OPERATIONS: Paul Sampson



An interruption to RHIC run 16, which began last month, is presently winding down. A shorted diode for the quench protection system in a dipole in the Blue ring has been repaired. Testing of the power supply and magnet systems is underway with restoration of Physics to follow. Work on projects and systems in the tunnel including CeC and LEReC and the E-lens was completed during the shutdown period. Physics running will run for the remainder of April.

The pre-injectors continue to run well. Repair of a contaminated cold head for the AGS snake magnet was completed during the shutdown. Preparation for Polarized Proton studies will recommence this month following the cool down of the snake magnet

LINAC is running well for BLIP. The Raster system is running well and the current on target has been steady at a current exceeding 150uA. LINAC maintenance periods continue to be executed independently from RHIC and around scheduled BLIP work.

EBIS has been running well, delivering beams to the Booster for RHIC, development and NSRL.

The Booster continues to run well. NSRL run 61A is underway and will continue through April.

The "[RHIC Broadcast](#)" link displays the latest schedules for testing, power disruptions, outages and daily schedules.

To view a list of approved work for the Shutdown or to review past results, go to the [Job Request System](#) and select the appropriate date. This link is behind the firewall and requires privileges to view.

For weekly schedule updates see: [This Week](#), which can be viewed by all.

▶ Arrivals/Departures

 Safety Stats

APR '16
ISSUE

PARTICLE POST

COLLIDER-ACCELERATOR DEPARTMENT

Contact: [A. Lamberti](#)

A WORD FROM
THE:

PREVIOUS ISSUES

August 2015

[Administration](#)

[{ HOME PAGE }](#)

[BNL WEBSITE](#) | [C-AD WEBSITE](#) | [ES&F WEBSITE](#) | [BERA](#) | [BNL CLASSIFIED ADS](#) | [INSIDE](#)

[Accelerator Div.](#)

Quote of the Month: "Science is the acceptance of what works and the rejection of what does not. That needs more courage than we might think." - Jacob Bronowski

[ES&F Div.](#)

[Acc. R&D Div.](#)

ARRIVALS: Welcome!

[Operations](#)

Brendan Lepore - Machine Operations, Accelerator Division

Pierre Korysko - Accelerator Physics, Accelerator Division

[▶ Arrivals/Departures](#)

William Meyer - Controls Systems, Accelerator Division

Shunsuke Ikeda - Preinjector Systems, Accelerator Division

 [Safety Stats](#)

DEPARTURES: Farewell, you will surely be missed..

[Guest Notices:](#)

APR '16
ISSUE

PARTICLE POST

COLLIDER-ACCELERATOR DEPARTMENT

Contact: [A. Lamberti](#)

A WORD FROM
THE:

PREVIOUS ISSUES

August 2015

Administration

[{HOME PAGE}](#)

[BNL WEBSITE](#) | [C-AD WEBSITE](#) | [ES&F WEBSITE](#) | [BERA](#) | [BNL CLASSIFIED ADS](#) | [INSIDE](#)

Accelerator Div.

Quote of the Month: "Science is the acceptance of what works and the rejection of what does not. That needs more courage than we might think." - Jacob Bronowski

ES&F Div.

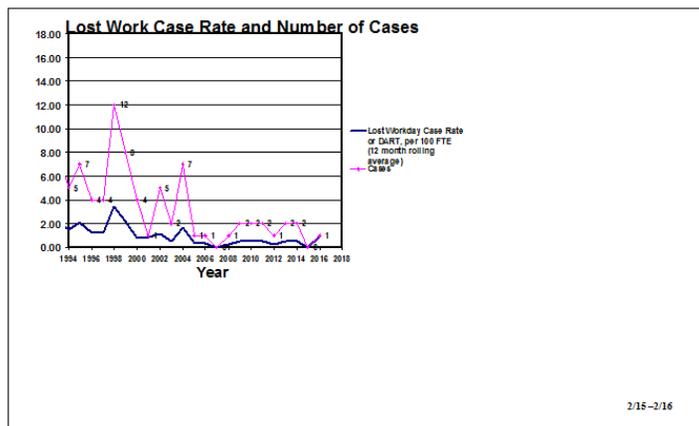
Acc. R&D Div.

Operations

SAFETY STATS: Peter Cernigliaro

▶ Arrivals/Departures

 Safety Stats



2/15-2/16

C-AD Occupational Injury Statistics

For Year 2015 For Year* 2016

First Aid Cases	5	1
Recordable Cases	1	1
Lost Work Cases	0	1

* Calendar Year through 2/15